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Researching Social Tagging and Folksonomy in Art Museums

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Abstract

Can social tagging and folksonomy improve access to art museum collections on-line? Our two-year research project (October 2006–September 2008) is designed to answer this question.

There are now millions of works of art from museums on the Web. But while many museums have made significant investments in developing searchable on-line databases, the content in them is often inaccessible to users who may prefer to search using keywords or subject terms rather than the specialist cataloguing of museum professionals. Museums must find ways to make their collections more accessible to the general public. The technologies of social tagging, which generate folksonomies, or publicly contributed index terms, seem promising.

To establish whether museums can take advantage of these new technologies and methods, we will conduct an experiment, developing and deploying an open-source, social tagging environment and collecting terms assigned to works of art by the public. We will analyze the resulting folksonomy along a number of different facets, including the characteristics of the users who assigned the terms and the appropriateness of the term to the work. We will rigorously evaluate the relationship of user-supplied terms to existing museum documentation, professional controlled vocabularies, general lexigraphic resources, and terms used in queries of on-line museum resources by members of the public. The subject-based nature of our research restricts project participants to art museums. Our research and analyses will enable us to assess and report on the value of social tagging and folksonomy for art museums, and to make an original contribution to the theory and practice of subject description, and on-line information resource development and distribution.

Improved understanding of the role of social tagging and folksonomy in art museums will have benefits for all museums and their publics. New strategies for subject description and indexing could break a museum resource log-jam, by providing an affordable way to provide needed subject access. Involving the public would be a significant re-alignment of museum practice. Our method for exploring this potential change, in a collaborative environment, will itself be a contribution to museum professional practice; we hope to show that by working together, each taking on a part of the project, we can reduce the risk of such a new venture to all of our institutions. Our open communications strategy allows others, particularly those from small museums unable to invest in research and development, to follow along and learn at their own speed.

The general public may find they have easier access to public collections held in trust, via folksonomy that offers an improved representation of user points-of-view, including multi-cultural perspectives. In addition, social tagging may offer an engaging form of interaction with museum objects, encouraging a sense of ownership and belonging.

The project will be directed from the Director's Office of The Metropolitan Museum of Art by Susan Chun, General Manager for Collections Information Planning. Jennifer Trant, Partner, Archives & Museum Informatics will serve as Project Manager. There are seven museum partners: the Cleveland Museum of Art, the Denver Art Museum, the Guggenheim Museum, The Metropolitan Museum of Art, The Minneapolis Institute of Arts, The Rubin Museum of Art, and the San Francisco Museum of Modern Art. A focus on art will facilitate term analysis. Breadth of participation will strengthen our results.

NARRATIVE

Researching Social Tagging and Folksonomy in Art Museums

Research question: Can social tagging and folksonomy improve access to art museum collections on-line?

1. Assessment of Need

The Problem
There are now millions of works of art from museums on the Web. But while many museums have made significant investments in developing searchable on-line databases, the content in them is often inaccessible to users unfamiliar with the specialist cataloguing of museum professionals. Members of the general public may prefer to search for works of art by using keywords or subject terms. As user-centered guides to art information, such as the *Categories for the Description of Works of Art (Art Information Task Force (AITF) 1995)* or the new draft guidelines for *Cataloguing Cultural Objects* (Visual Resources Association 2005), show, subjects are a key point of access for a broad range of users.

For a range of reasons, museums have often failed to document subject information about works of art. Subject description is expensive, labor-intensive, difficult work (Baca 2002; Shatford 1984; Smith 2005). Many different points of view can be represented in a subject description (Sledge 1995) and as the CIMI consortium discovered, reflecting such diversity is not easy (Janney and Sledge 1995; Sledge and Case 1995). In addition, subject access doesn't really support the core business function of the museum, and as a consequence it has been left out of basic collections documentation programs. Museum descriptive standards such as MDA's Spectrum (McKenna and Patsatzi 2005) and the Canadian Heritage Information Network's *Humanities Data Dictionary* (2005) focus more on administrative functions such as collections inventory, managing acquisitions and loans, and recording basic physical descriptions of works of art.

Users are frustrated with museum on-line collection catalogs:

> *I find it difficult to get any decent results that make sense when I put in a search term. .... I consider it luck when I put in the right search term!* (Gray 2006)

The Opportunity
One possible way to generate subject descriptions is to engage the general public, using *social tagging*. Social tagging is a new phenomenon. Users are empowered to label content on the Web with keywords or *tags* that reflect their point of view. Individually, searching tags you have assigned helps you find things you have seen before. Collectively, sharing tags means that others can find things that you have tagged, and you can take advantage of their work.

Two popular Web sites that use social tagging are **flickr** and **del.icio.us**. **flickr** (http://www.flickr.com) is an image-sharing site. You upload your images, tag and group them, search them, and let others search for them using your tags. The main home page of flickr shows "popular" tags – including "museum" (Figure 1). Web users have tagged and shared thousands of pictures of and about museums in flickr (Figure 2).

del.icio.us helps you tag Web resources to build your own personal set of annotated and tagged bookmarks. **del.icio.us** keeps track of how many times different users have tagged the same Web site, and notes what tags they have assigned. You can search **del.icio.us** by tag, by user, or by a combination of both. For example, a search for "museum" shows sites tagged by many users and shows other common tags used to describe those resources (Figure 3).

Both flickr and del.icio.us take advantage of *social tagging* to gather terms from volunteer users to describe Web accessible resources. The resulting publicly-contributed terminology has been called a *folksonomy* (Smith 2004). A combination of the words *folk* (for people) and *taxonomy* (for formal system of organization), *folksonomy* reflects popular ways of organizing information. *Folksonomy* is interesting to providers of information resources because it provides a direct view into what the users think about the subject and organization of the content made available on-line.

Social tagging and folksonomy are being used in an experimental context to develop an index to the World Wide Web. At Carnegie Mellon University, a group has developed a way to engage users in tagging images on the Web by having them play the ESP Game (Ahn and Dabbish 2004). Two paired but anonymous users assign tags to randomly presented images until they "match" by assigning the same tag. The faster you match, the more points you get. Judging from the number of users on-line and the high scores reported, as well as some personal experience, this is a very engaging activity. Over ten-million labels for images had been collected as of January 23, 2006 (see regular statistics at http://www.espgame.org).

For the past two years, an informal group of art museum professionals has been investigating developments in social tagging and folksonomy, and discussing the issue with our colleagues in professional conference sessions like "Cataloguing by Crowd"(Chun and Jenkins 2005) and a session at the 2005 MCN meeting (that stimulated a lively follow-on listserv discussion afterwards summarized by Waibel 2005). Preliminary proof-of-concept work has also been done at The Metropolitan Museum of Art (Figure 4). In the summer of 2005 the group formed steve.museum, a collaboration in which to investigate social tagging and folksonomy (see Attachments 4). We see an opportunity to use social tagging tools in the museum context. But to move beyond theoretical discussions and experimental implementations such as the Electronic Swatchbook at the Powerhouse Museum (Powerhouse Museum and Chan 2005), we need to know more about the nature of social tagging and the kinds of access afforded by folksonomy. This need motivates our research project.

Our Research Question
Can social tagging and folksonomy improve access to on-line art museum collections and be an engaging activity for museum visitors?

We hypothesize that social tagging and folksonomy could provide improved access to on-line museum collections for general users. To establish whether museums can take advantage of these new technologies and methods, we will collect terms assigned to works of art in an experimental, open-source, social tagging environment. We will analyze the resulting folksonomy along a number of different facets, including the characteristics of the users who assigned the terms, and the appropriateness of terms to the work of art. We will rigorously evaluate the relationship of the terms to existing museum documentation, professional controlled vocabulary, general lexigraphic resources, and users' on-line search terminology.

While our research and analyses will give us an insight into the value of social tagging and folksonomy for art museums, we see great potential for the application of social tagging and folksonomies for museums generally. However, our study is initially focused on art museums because we believe that vocabulary analysis will be facilitated in a more confined subject domain. Our work to date has shown that this narrow focus is conducive to collaboration and helps us be productive.

2. National Impact and Intended Results

Impact
If social tagging and folksonomy improve access to on-line art museum collections, their implementation could significantly benefit museum professionals and the public at large.

Benefits for Museum Professionals
New strategies for subject description could break the log-jam of subject access by providing an affordable way to do subject description, with a potential for vast efficiencies and cost savings over current ways of working. This engagement of the public would be a significant re-alignment of museum practice. Our method for exploring this potential change, in a collaborative environment, will itself be a contribution to museum professional practice; we hope to show that by working together, each taking on a part of the project, we can reduce the risk of such a new venture to each of our institutions. Our open communications strategy allows others, particularly those from small museums unable to invest in research and development, to follow along and learn at their own speed.

Benefits for Museum Publics
The general public may find they have easier access to public collections held in trust, via folksonomy that offers an improved representation of user points-of-view, including multi-cultural perspectives. Social tagging may offer an engaging form of interaction with museum objects. Both encourage a sense of ownership and belonging in the general public.

Benefits for the Research Community
Our study will make an original contribution to the theory and practice of subject description and on-line information resource development and distribution. There is wide interest in the subject of folksonomy and social tagging, shown in an upcoming workshop on the subject at the World Wide Web 2006 conference (WWW2006), and a number of recent papers (Golder and Huberman 2005; Hammond, Hannay et al. 2005; Mathes 2004; Quintarelli 2005), and systems developed in particular application areas (Chudnov, Barnett et al. 2005; Millen, Feinberg et al. 2005; Smith 2005). But a detailed analysis of terms contributed through social tagging has not yet been published in any domain. The results from our study of social tagging and folksonomy in art museums will be of interest not only to other museums and cultural institutions, but to other implementers of social tagging broadly.

Our Results
In addition to published assessments of this new technology in the art museum context, we will provide open-source tools and analytical models to support the deployment of social tagging in other museum environments. We will identify strategies to best redeploy the resulting folksonomy so that it can be used to satisfy requests made by the general public of on-line museum resources. The project will release documented, open source, freely available tools and methods for collecting terms, analyzing terms and relating terms to museum documentation, along with a replicable model for terminological analyses in museums and other domains.

Our research will make an original contribution to the understanding of needs for access to art museum collections and of ways to use social tagging and folksonomy to engage museums publics.

3. Project Design and Evaluation Plan

Our Research Question
Could social tagging and folksonomy improve access to on-line art museum collections and be an engaging activity for museum visitors?

Methodology
An experiment involving eight major art museums will explore this question. We will build an environment to support social tagging of works of art, and will study the tagging activity and the resulting folksonomy. We will analyze the terms proposed by different communities (known and general) in order to establish whether acquiring index terms (tags) through social tagging could improve retrieval in on-line collections of art museums. Our term collection and analysis process is outlined in (Diagram 1).
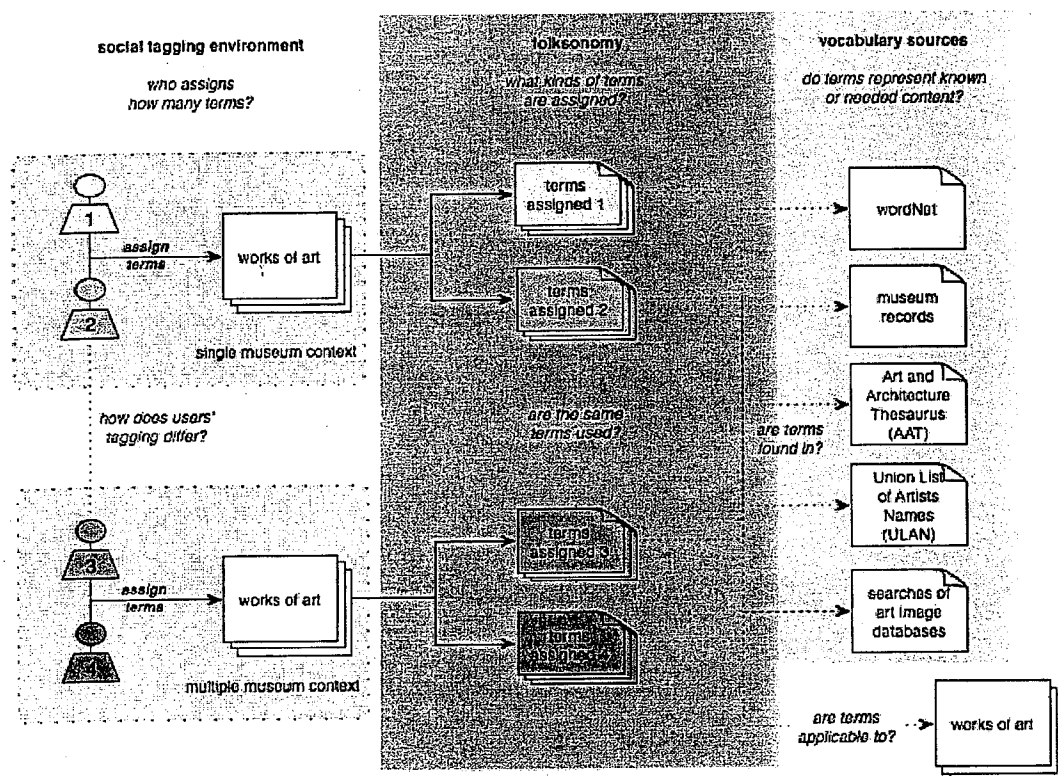

Diagram 1. Research questions are positioned in the data collection and analysis process, from term collection in a social tagging environment, through folksonomy analysis, comparison with controlled vocabularies, and assessment in relationship to the work of art.

This study will be conducted on-line, with subjects voluntarily engaged in social tagging of museum works, in return for perceived personal benefits. The system will be designed to provide an enjoyable experience and give subjects positive feedback for their efforts. We will deploy a social tagging environment in two contexts: a multi-institutional system publicly accessible over the Internet, and a single-institution system where use is primarily facilitated, so that we can test the influence of environment.

4

We hypothesize that terms used to tag works are similar to terms used to retrieve works. To determine whether social tagging provides useful terms, we will analyze the resulting folksonomic terminology in relation to:

1) general terminological resources (to see if "real" words are provided, and to understand the level of variance in parts of speech, e.g. singular/plural);

2) existing museum documentation (to see if new words are provided);

3) standard controlled vocabularies in the art museum field (to see if new terms are provided or new concepts represented); and

4) terms used in actual searches of on-line museum Web resources (to see if the folksonomic terminology would have helped make a match).

We will make comparisons of terms assigned under different conditions by different groups of users, for example volunteers, members, or educators with existing relationships to the museum, as compared to unknown users. We will also analyze terms provided by social tagging to the works of art themselves, to see if they are appropriate.

We expect that terms used in social tagging will more closely satisfy the expressed needs of naive searchers than professional controlled vocabularies. However, we expect that these terms will appear in many variant forms (e.g. singular/plural, present/past). We hypothesize that many descriptive subject terms used in tagging will not be contained within either existing documentation or controlled vocabularies often used in art museums.

Works of Art
Social tagging will be enabled for two collections of existing digital images of works of art: one with works from a single institution and one with works from multiple institutions. Works from each of the two environments will be identified by characteristics based on time and/or place of creation, and classified as representational or non-representational for purposes of subsequent analysis.

Users
Terms will be collected from two experimental groups of users: 1) known communities with existing relationships to the museum—such as museum volunteers (friends, docents, etc.), educators, and visitors to the physical museum—invited to participate by museum staff, and identified in their interactions with the system by signing in, and 2) the "general public," self-selected from the universe of Web users. When the general public tags works, they will have the option to identify themselves (and thereby see the results of their own work) or to remain anonymous. In both public and select-group tests, users themselves will be anonymized but identifiers will be maintained. Session tokens will link to specific user identifiers, so that it will be possible to analyze the activities of users across sessions without compromising personal privacy.

Investigators will not intervene in the tagging process except by controlling the works that can be tagged. Subjects may receive feedback from the system: for example, tags assigned might be visible within a session, or across sessions; other terms might be shown (from vocabularies, documentation, or other taggers); or categories of terms might be suggested (from classification systems, categories suggested by the subject, or categories suggested by other taggers). A range of environment variables has already been defined in a preliminary manner (Cataloguing by Crowd Working Group and Bearman 2005).

Folksonomy Analysis

Data Snapshots
The terms contributed by each user group will be collected (along with the session variables) and analyzed in four cycles over the course of the project. Analysis will be supported by a series of tools developed for the project that accommodate art-museum specific issues and concerns. These will be defined and tested in the first six months of the project, and deployed in the remaining 18 months.

Term analysis will take place in four phases throughout the project. This segmentation will allow us to assess progressions, if any, in known users and communities. For example, we will be able to determine if users who have done more tagging assign more applicable terms.

Who assigns how many terms?
To understand whether social tagging is engaging to users, we need to analyze their behavior in relation to the system, as shown in the terms they assign. Terms will be clustered and analyzed by anonymized user, to identify characteristics such as frequency of system use, number of terms per session, length of session, and types of works tagged. Terms assigned in single-institution and multiple-institution contexts will be compared. Term assignment characteristics will also be compared across the various data snapshots.

What kinds of terms are supplied?
To understand the possible utility of folksonomy, we need to understand the nature of the terms contributed. First, contributed terms (folksonomies) will be compared to determine variations in form (e.g. woman/women or Impressionist/Impressionism) and frequency of occurrence. Terms will be further classified as "words" or "not-words" by comparing them to dictionaries or resources such as WordNet.

This preliminary analysis will help us understand the kind of variations present, and determine the nature of additional processing required before we can compare folksonomic terms to those in other vocabulary sources.

Are the terms applicable to the work of art?
For the purposes of this research project, terms will also be compared to the Works of Art themselves, and judged as "applicable" or "inapplicable." We wish to establish if there are thresholds (e.g. number of occurrences by number of users) after which a term can be assumed to be applicable. If so, we could weed out inaccurate and non-meaningful terms from lists generated by folksonomies, and introduce significant efficiencies into the process.

Do terms represent known or needed content?
Folksonomic terminology will be compared to a number of pre-defined vocabulary sources, including the full text of existing museum documentation, and controlled vocabularies used by art museums, such as the *Art and Architecture Thesaurus* (AAT), and *Union List of Artists Names* (ULAN). Terms will be identified as "matching" or "not matching" for these two sources.

The terms will then be compared to terms used in on-line searches of art image databases, to see if they would have helped provide "answers" to users' queries had they been present.

Impact Assessment
We will approach evaluation of the project in two different ways, in order to assess the impact of folksonomy on two different communities of users: 1) the community of social

taggers and on-line database users, and 2) the museum professionals responsible for the creation, maintenance, and use of those on-line resources.

Much of our analysis of the folksonomy created by social tagging in the art museum context is evaluative by nature. The research goal of our project is to assess whether useful terms that aid information retrieval can be gathered in this manner. The quantitative and qualitative analysis of terminology will itself show whether social tagging could have an impact, for example, by reflecting the diversity of the museum public.

We are also interested in understanding the nature of the user experience within a museum social tagging environment. During the project we will conduct formative and summative evaluations of user perceptions of the tagging experience to determine if it was a satisfying and engaging one that built a relationship between the museum and an individual. These will be conducted in both the single-institution and multi-institution deployment environments, to test the significance of a previous relationship. Simple quantitative measure, including how many people participated, for how long, how many terms they assigned, and how many times they returned, will provide us with insight into how to motivate, guide, and reward social taggers. Comparing results from early in the project to those at the end will help us understand the impact of system use on taggers, and provide insight into interface and feedback processes that invite, encourage, and engage taggers.

Understanding the impact of social tagging on a variety of museum professionals, in areas such collections documentation, interpretation, and on-line access, will help the project make recommendations on how best to introduce the practice into museums if folksonomic vocabularies do prove effective for access. Formative and summative questionnaires will be administered to museum staff at all participating institutions. The results will be analyzed, and perceptions of utility compared with results from our analysis of folksonomy and social tagging, to identify where we need to communicate benefits to museum professionals.

4. Project Resources: Budget, Personnel, and Management Plan

The collaboration is constituted of representatives of major art museums, committed to building an understanding of the role of social tagging and folksonomy in art museums. During the development of our research project, many days of time have been spent framing research questions and analyzing issues. We have a proven track record of working together in past technology-enabled collaborative projects, conducted at a distance. The group represents a diverse range of museum professionals and supporting consultants, all of whom bring a significant qualifications, experience and expertise.

All museum professional time required for this research project is contributed as cost-sharing.

The project will be directed from the Director's Office of The Metropolitan Museum of Art by Susan Chun, General Manager for Collections Information Planning. Chun is a respected senior museum manager, experienced in museum information projects. Jennifer Trant, Partner, Archives & Museum Informatics will serve as Project Manager. Trant has more than 15 years of experience managing collaborative museum research and demonstration projects exploring access to art museum collections, including the Art Information Task Force (that produced the *Categories for the Description of Works of Art*), the Museum Educational Site Licensing Project and the Art Museum Image Consortium. She has published widely on access to museum information and metadata standards.

The contributions of museum professionals to the project will be channeled through Working Groups chaired by members of the project team, in the following areas: Tagging Environment; Social Tagging; Analysis Tools; Folksonomy; Impact Assessment; and Communications. Working Groups will be coordinated by the Project Manager.

Project Team

Project Director: Susan Chun
General Manager for Collections Information Planning, The Metropolitan Museum of Art
❖ Overall project direction; working group oversight; reporting

Tagging Environment Working Group Chair: Douglas Hiwiller, Manager, Information Services, Cleveland Museum of Art
❖ Requirements and specification for social tagging tool; specification for museum data submission

Social Tagging Working Group Chair: Willy Lee, Webmaster, The Minneapolis Institute of Arts
❖ Pre-test and deployment of Tagging Environment; facilitate use

Folksonomy Working Group Chair: Peter Samis, Associate Curator of Education, San Francisco Museum of Modern Art
❖ Analysis of submitted terms in relation to museum objects and terminology

Analysis Tools Working Group Chair: Douglas Hegley, Deputy Chief Technology Officer, The Metropolitan Museum of Art
❖ Analysis and processing of terminology; question formulation for term analysis

Term Analysis Methodology Consultant: Joseph Busch / Taxonomy Strategies
❖ Term analysis strategies and methods; training of project participants

Impact Assessment Working Group Chair: Helen Abbott, Assistant Director, Rubin Museum of Art
❖ Impact of social tagging and folksonomy on museum culture; impact on social taggers

Project Manager: Jennifer Trant
Partner, Archives & Museum Informatics
❖ Primary author of research results; direction of research agenda; coordination of working groups; management of consultants

Single Institution Implementation Manager: Michael Jenkins, Manager Met Images, with Koven Smith, Senior Analyst for Enterprise Content Management, The Metropolitan Museum of Art
❖ Single-institutional tagging tool; manage single-institutional data contribution

Multiple Institution Implementation Manager: Rich Cherry, Director of Information Technology, Guggenheim Museum
❖ Multi-institutional tagging tool; support multi-institutional data contribution

Research Associate: Project staff
❖ Support to all working groups; gathering and analysis of terminology; gathering and analysis of impact assessments

Contract Programmer: Ray Shah / Think Design
❖ Implementation and maintenance of Social Tagging environment; programming support for folksonomy term analysis

Communications Working Group Chair: Bruce Wyman, Director, New Technologies, Denver Art Museum
❖ Reporting and dissemination of data sets, methods, tools and results; project Web site

Webmaster: Project contractor
❖ Design, updating and maintenance of project Web site; development of documentation and distribution of data sets and software tools

Communications Consultant: Project contractor
❖ Meeting facilitation, report and article drafts

All members of the Project Team have the full support of their museums to commit time and expertise to our collaboration. Working Group Chairs will recruit museum professionals from within the formal research project and from outside. More than thirty-five professionals expressed interest in follow-up activities at a working meeting at the 2005 Museum Computer Network conference.

Joseph Busch and Ron Davies of Taxonomy Strategies bring exceptional expertise to the project. Both are internationally recognized and respected researchers and strategists. Busch is a former president of the American Society for Information Science; Davies, a co-editor of the original Dublin Core Metadata Standard. They bring qualifications in research design and execution and are committed to methodology instruction to ensure knowledge transfer.

5. Dissemination

Our collaboration has adopted an open and consultative way of working that will continue in this research project. We make strong use of electronic communications to reach the diverse communities interested in our activities. Our project Web site, at http://www.steve.museum is the locus for distribution of project documents, plans, methodology papers and reports, as well software, tools, and published papers. It also hosts the archive of our public discussion list.

All the documentation from our 2005 working meeting is available on-line. Software tools and methods developed during the project to support data collection and analysis will also be made available on-line under open-source licenses (Creative Commons or GNU as appropriate). Research protocols, analytical tools, and data sets will also be released so that others can both replicate our experiments, and ask other questions of our data; here we will build on the data archiving and distribution practices of other disciplines. Our Web site will remain a key focus for our shared work, and a point of contact for community contribution of insights and perspectives.

Conference Presentations

Members of the project team have been involved in conference presentations about the potential for folksonomy in the museum at Museums and the Web (MW) and Museum Computer Network (MCN) 2005 annual meetings. A follow-up presentation has been accepted for MW2006. Our plan is to continue to use MW and MCN as venues for reports to the wider museum community, and as the site for open working meetings. If results warrant a more general audience, we will make a proposal to AAM for the 2008 annual meeting.

In addition, because our activities are of interest outside the museum community—in library information science, for example—we will present at conferences such as the American Library Association (ALA) and the American Society for Information Science and Technology (ASIST). (The Project Manager has already been invited to join a panel at the ALA Summer 2006 meeting.) We will also present at conferences of user groups, such as the Coalition for Networked Information (CNI, the place to reach academic computing and digital library leaders), the College Art Association (CAA, the annual gathering of art historians), and the Visual Resources Association (VRA, the professional association of image collection managers). Members of the project team will continue to report on our activities at local and regional museum association meetings.

Published Papers
We have already published a paper summarizing the research questions and our approach to examining the museum potential for social tagging and folksonomy in *D-Lib Magazine* (Bearman and Trant 2005); we plan a follow-up report in *D-Lib*. Our position paper, developed for the Social Tagging workshop at WWW2006 is available on-line (Trant and Wyman 2006), and if accepted will be distributed as part of that meeting's proceedings.

We plan to submit papers about appropriate aspects of the project to such peer-reviewed journals as *Journal of the Association for Information Science and Technology (JASIS)*, *First Monday*, and the *New Review of Multimedia*. As well as publishing in the *Museums and the Web Proceedings* we will make our findings available to the museum community through venues such as *Curator* or *museum and society*.

6. Sustainability

Implementation of Social Tagging
This research project has strong support from its seven museum partners. If successful, the Cleveland Museum of Art, the Denver Art Museum, the Guggenheim Museum, The Metropolitan Museum of Art, The Minneapolis Institute of Arts, the Rubin Museum of Art, and the San Francisco Museum of Modern Art will implement social tagging for at least part of their collections, and will incorporate folksonomic terminology into their collections documentation. Deployment will depend on local contexts and systems. While we do not expect to make implementation recommendations, we will articulate questions of institutional policy and local practice (around the management and deployment of collected terms, as well as their relationship to controlled vocabularies) in the course of our research.

If, as we hope, social tagging provides an engaging means for users of museum collections to enhance access, and if the resulting folksonomy adds value to museum documentation, the benefits for both the professionals and the general public will be significant. Museums could adopt more cost-effective ways to represent user perspectives in museum collections documentation, and improve access to the collections we hold in trust for a broad range of users. What was a prohibitively expensive proposition for any museum—detailed subject indexing—could become both easy to achieve and an attractive way to engage the public.

Ongoing Access to Tools, Methods and Documentation
The tools and techniques developed by the project will be freely available for implementation by other museums. Participants in the research project are committed to sharing the expertise and capacity they will develop within their institutions. Documentation and methods will be provided to ease implementation in museums that were not participants in the project. The project Web site, hosted by the Guggenheim Museum, will remain accessible as a locus for the exchange of experience and expertise and as a repository of project documentation and results.

Potential for Change in the Field
A successful social tagging initiative, and the folksonomy that results, could open the profession to the contributions of the public, enabling museum users to enhance their own access to museum content. The potential for multiple perspectives, that embody diverse, multi-cultural—even multi-lingual—access to collections that have to date been effectively closed to non-specialists is enticing. Museums could leverage significant investments in digital content and improve our service to those for whom we hold collections in trust.